CLAIMS

1. An assay for an analyte, comprising specifically associating the analyte with a reporter kinase, adding ADP and testing for formation of ATP wherein, prior to addition of ADP, kinase other than reporter kinase is substantially removed.

2. An assay according to Claim 1, wherein the amount of reporter adenylate kinase specifically associated with the analyte is substantially proportional to the amount of analyte.

3. An assay according to Claim 1 comprising inactivating endogenous adenylate kinase in the analyte by heating the analyte.

4. An assay according to any of Claims 1-3 wherein the reporter adenylate kinase is thermostable.

5. An assay according to any of Claims 1-4 wherein formation of ATP is measured using luciferin/luciferase.

6. An assay according to any of Claims 1-5 for determining presence and/or amount of an analyte in a sample, comprising

exposing the sample to a reporter adenylate kinase coupled to a binding agent specific for the analyte, so that the reporter adenylate kinase is specifically associated with any analyte present in the sample;

removing reporter adenylate kinase that is not specifically associated with analyte;

exposing reporter adenylate kinase specifically associated with the analyte to ADP; and

testing for formation of ATP,

wherein prior to addition of ADP adenylate kinase other than reporter adenylate kinase is substantially removed.

7. An assay according to any of Claims 1-6 comprising adding an ATPase to the analyte and removing the ATPase from the analyte prior to adding ADP.

8. An assay according to Claim 7 wherein the ATPase is inactivated by heating the ATPase.

9. Apparatus for determining the presence and/or amount of analyte in a sample comprising:-

a solid phase on which is immobilised the analyte or an antibody specific for the analyte;

a reporter composition comprising a thermostable adenylate kinase coupled to an antibody specific for the analyte; and

ADP plus associated reagents for conversion of ADP into ATP by thermostable adenylate kinase.

10. Apparatus according to Claim 9 further comprising an ATPase.

11. An assay for determining presence and/or amount of an analyte in a sample, comprising:-

exposing the sample to a detector composition, the detector composition comprising an antibody specific to the analyte coupled to a thermostable enzyme;

isolating (i) detector composition that has specifically bound to analyte from (ii) detector composition that has not specifically bound to analyte;

determining the presence and/or amount of detector composition that has bound to analyte by adding a substrate for the thermostable enzyme;

wherein prior to adding the substrate non-thermostable enzymes are destroyed by application of heat.

12. An assay according to Claim 11, wherein substrate is converted into product by the thermostable enzyme and prior to addition of the substrate background product is removed.

13. An assay according to Claim 12 wherein background product is removed by the action of enzyme or by thermal inactivation.

14. A conjugate comprising an antibody conjugated to a thermostable enzyme for use in the assay of any of Claims 1-8 and 11-13.

15. A conjugate according to Claim 14, wherein the enzyme is an adenylate kinase.

16. A conjugate according to Claim 14 or 15 wherein the antibody binds to an analyte selected from a protein, a microorganism, a peptide, a toxin, a hormone and a metabolite.

17. A conjugate according to Claim 16 wherein the antibody binds to a prion protein.

18. Use of apparatus of Claims 9-11 or the conjugate of Claims 14-17 in an assay for an analyte.

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